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	Filing Date		2003-08-08	
	First Named Inventor	J. Mark Weber		
	Art Unit	1652		
	Examiner Name	Iqbal Hossain Chowdhury		
	Attorney Docket Number	065382-0006		

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1	APARICIO, JF, CAFREY P, GIL JA, ZOTCHEV SB. Polyene antibiotic biosynthesis gene clusters. Appl Microbiol Biotechnol. 2003 May;61(3):179-88. Epub 2002 Dec 18	<input type="checkbox"/>
2	APARICIO JF, MOLNAR I, SCHWECKE T, KONIG A, HAYDOCK SF, KHAW LE, STAUNTON J, LEADLEY PF. Organization of the biosynthetic gene cluster for rapamycin in Streptomyces hygroscopicus: analysis of the enzymatic domains in the modular polyketide synthase. Gene. 1996 Feb 22;169(1):9-16.	<input type="checkbox"/>
3	BIBB MJ, WHITE J, WARD JM, JANSSEN GR. The mRNA for the 23S rRNA methylase encoded by the ermE gene of Saccharopolyspora erythraea is translated in the absence of a conventional ribosome-binding site. Mol Microbiol. 1994 Nov;14(3):533-45	<input type="checkbox"/>
4	BIRCH A, LEISER A, ROBINSON JA. Cloning, sequencing, and expression of the gene encoding methylmalonyl-coenzyme A 20 mutase from Streptomyces cinnamonensis. J Bacteriol. 1993 Jun;175(11):3511-9	<input type="checkbox"/>
5	DAYEM LC, CARNEY JR, SANTI DV, PFEIFER BA, KHOSLA C, KEALEY JT. Metabolic engineering of a methylmalonyl-CoA mutase-epimerase pathway for complex polyketide biosynthesis in Escherichia coli. Biochemistry. 2002 Apr 23;41(16):5193-201.	<input type="checkbox"/>
6	DONADIO S, STAYER MJ, KATZ L. Erythromycin production in Saccharopolyspora erythraea does not require a functional propionyl-CoA carboxylase. Mol Microbiol. 1996 Mar;19(5):977-84.	<input type="checkbox"/>
7	DOTZLAF JE, METZGER LS, FOGELSONG MA. Incorporation of amino acid-derived carbon into tylactone by Streptomyces fradiae GS 14. Antimicrob Agents Chemother. 1984 Feb;25(2):216-20.	<input type="checkbox"/>
8	FLEISCHMANN RD, ADAMS MD, WHITE O, CLAYTON RA, KIRKNESS EF, KERLAVAGE AR, BULT CJ, TOMB JF, DOUGHERTY BA, MERRICK JM, et al. Whole-genome random sequencing and assembly of Haemophilus influenzae Rd. Science. 1995 Jul 28;269(5223):496-512.	<input type="checkbox"/>
9	GERTH K, BEDORF N, IIRSCHIK H, HOFLE G, REICHENBACH H. The soraphens: a family of novel antifungal compounds from Sorangium cellulosum (Myxobacteria). I. Soraphen AI alpha: fermentation, isolation, biological properties. J Antibiot (Tokyo). 1994 Jan;47(1):23-31.	<input type="checkbox"/>
10	GIL JA, CAMPELO-DIEZ AB. Candidicin biosynthesis in Streptomyces griseus. Appl Microbiol Biotechnol. 2003 Feb;60(6):633-42. Epub 2002 Dec 18. Review.	<input type="checkbox"/>
11	GORYSHIN IY, REZNIKOFF WS. Tn5 in vitro transposition. J. Biol. Chem. 1998 273: 7367-74.	<input type="checkbox"/>

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12	HAYDOCK SF, APARICIO JP, MOLNAR I, SCHWECKE T, KHAW LE, KONIG A, MARSDEN AF, GALLOWAY IS, STAUNTON J., LEADLAY PF. Divergent sequence motifs correlated with the substrate specificity of (methyl)malonyl-CoA:acyl carrier protein transacylase domains in modular polyketide synthases. FEBS Lett. 1995 Oct 30;374(2):246-8.	<input type="checkbox"/>
13	HSIEH YJ, KOLATTUKUDY PE. Inhibition of erythromycin synthesis by disruption of malonyl-coenzyme A decarboxylase gene eryM in Saccharopolyspora erythraea. J Bacteriol. 1994 Feb;176(3):714-24.	<input type="checkbox"/>
14	HUNAITI AA, KOLATTUKUDY PE. Source of methylmalonyl-coenzyme A for erythromycin synthesis: methylmalonyl-coenzyme A mutase from Streptomyces erythreus. Antimicrob Agents Chemother. 1984 Feb;25(2):173-8.	<input type="checkbox"/>
15	HU Z, BAO K., ZHOU X, ZHOU Q, HOPWOOD DA, KIESER T. DENG Z. Repeated polyketide synthase modules involved in the biosynthesis of a heptaene macrolide by Streptomyces sp. FR-008. Mol Microbiol. 1994 Oct;14(1):163-72.	<input type="checkbox"/>
16	IKEDA H, NONOMIYA T, USAMI M., OHTA T., OMURA S. Organization of the biosynthetic gene cluster for the polyketide anthelmintic macrolide avermectin in Streptomyces avermitilis. Proc Natl Acad Sci U S A. 1999 Aug 17;96(17):9509-14.	<input type="checkbox"/>
17	KELLERMEYER RW, ALLEN SHG, STJERNHOLM R, and WOOD HG. Methylmalonyl isomerase. IV. Purification and properties of the enzyme from Propionibacteria. J. Biol. Chem. 1964 239:2562-2569	<input type="checkbox"/>
18	LIU H, REYNOLDS KA. Role of crotonyl coenzyme A reductase in determining the ratio of polyketides monensin A and monensin B produced by Streptomyces cinnamonensis. J Bacteriol. 1999 Nov;181(21):6806-13.	<input type="checkbox"/>
19	MARSH EN, MCKIE N, DAVIS NK, LEADLAY PF. Cloning and structural characterization of the genes coding for adenosylcobalamin-45 dependent methylmalonyl-CoA mutase from Propionibacterium shermanii. Biochem J. 1989 Jun 1;260(2):345-52.	<input type="checkbox"/>
20	MILLER ES. Cloning vectors, mutagenesis, and gene disruption (ermR) for the erythromycin-producing bacterium Aeromicrobium erythreum. Appl Environ Microbiol. 1991 Sep;57(9):2758-61	<input type="checkbox"/>
21	MOCHIZUKI S. HIRATSU K, SUWA M. ISHII T, SUGINO F, YAMADA K. KINASHI H. The large linear plasmid pSLA2-L of Streptomyces rochei has an unusually condensed gene organization for secondary metabolism. Mol Microbiol. 2003 Jun;48(6):1501-10.	<input type="checkbox"/>
22	MOLNAR I, APARICIO JF, HAYDOCK SF, KHAW LE, SCHWECKE T, KONIG A, STAUNTON J. LEADLAY PF. Organisation of the biosynthetic gene cluster for rapamycin in Streptomyces hygroscopicus: analysis of genes flanking the polyketide synthase. Gene. 1996 Feb 22;169(1):1-7.	<input type="checkbox"/>

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23	OH SH, CHATER KF. Denaturation of circular or linear DNA facilitates targeted integrative transformation of <i>Streptomyces coelicolor</i> A3(2): possible relevance to other 20 organisms. <i>J Bacteriol.</i> 1997 Jan;179(1):122-7.	<input type="checkbox"/>
24	OMURA S, TSUZUKI K, Tanaka Y, SAKAKIBARA H, AIZAWA M, LUKACS G. Valine as a precursor of n-butyrate unit in the biosynthesis of macrolide aglycone. <i>J Antibiot (Tokyo).</i> 1983 May;36(5):614-6.	<input type="checkbox"/>
25	OMURA S, TAKI A, MATSUDA K, TANAKA Y. Ammonium ions suppress the amino acid metabolism involved in the biosynthesis of protylonolide in a mutant of <i>Streptomyces fradiae</i> . <i>J Antibiot (Tokyo).</i> 1984 Nov;37(11):1362-9.	<input type="checkbox"/>
26	OMURA S, TAKESHIMA H, NAKAGAWA A, MIYAZAWA J, PIRIOU F, LUKACS G. Studies on the biosynthesis of 16-membered macrolide antibiotics using carbon-13 nuclear magnetic resonance spectroscopy. <i>Biochemistry.</i> 1977 Jun 28;16(13):2860-6.	<input type="checkbox"/>
27	PAULUS TJ, TUAN JS, LUEBKE VE, MAINE GT, DEWITT JP, KATZ L. Mutation and cloning of eryG, the structural gene for erythromycin O-methyltransferase from <i>Saccharopolyspora erythraea</i> , and expression of eryG in <i>Escherichia coli</i> . <i>J Bacteriol.</i> 1990 May;172(5):2541-6.	<input type="checkbox"/>
28	REEVES AR, WEBER G, CERNOTA WH, WEBER JM. Analysis of an 8.1-kb DNA fragment contiguous with the erythromycin gene cluster of <i>Saccharopolyspora erythraea</i> in the eryCI-flanking region. <i>Antimicrob Agents Chemother.</i> 2002 Dec;46(12):3892-9.	<input type="checkbox"/>
29	RODICIO MR, CHATER KR. Small DNA-free liposomes stimulate transfection of streptomyces protoplasts. <i>J Bacteriol.</i> 1982 Sep;151(3):1078-85.	<input type="checkbox"/>
30	ROBERTS AN, BARNETT L, BRENNER S. Transformation of <i>Arthrobacter</i> and studies on the transcription of the <i>Arthrobacter</i> ermA gene in <i>Streptomyces lividans</i> and <i>Escherichia coli</i> . <i>Biochem J.</i> 1987 Apr 15;243(2):431-6.	<input type="checkbox"/>
31	RODRIGUEZ L, AGUIRREZABALAGA I, ALLENDE N, BRANA AF, MENDEZ C, SALAS JA. Engineering deoxysugar biosynthetic pathways from antibiotic-producing microorganisms. A tool to produce novel glycosylated bioactive compounds. <i>Chem Biol.</i> 2002 Jun;9(6):721-9.	<input type="checkbox"/>
32	SCHWECKE T, APARICIO JF, MOLNAR I, KONIG A, KHAW LE, HAYDOCK SF, OLIYNYK M, CAFFREY P, CORTES J, LESTER JB, et al. The biosynthetic gene cluster for the polyketide immunosuppressant rapamycin. <i>Proc Natl Acad Sci U S A.</i> 1995 Aug 15;92(17):7839-43.	<input type="checkbox"/>
33	SMITH DB, JOHNSON KS. Single-step purification of polypeptides expressed in <i>Escherichia coli</i> as fusions with glutathione S-transferase. <i>Gene.</i> 1988 Jul 15;67(1):31-40.	<input type="checkbox"/>

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34	TANG L, ZHANG YX, HUTCHINSON CR. Amino acid catabolism and antibiotic synthesis: valine is a source of precursors for macrolide biosynthesis in Streptomyces ambofaciens and Streptomyces fradiae. J Bacteriol. 1994 Oct;176(19):6107-19.	<input type="checkbox"/>
35	VLASIE MD, BANERJEE R. Tyrosine 89 accelerates Co-carbon bond homolysis in methylmalonyl-CoA mutase. J Am Chem Soc. 2003 May 7;125(18):5431-5.	<input type="checkbox"/>
36	WARD JM, JANSSEN GR, KIESER T, BIBB MJ, BUTTNER, MJ, BIBB MJ. Construction and characterization of a series of multi-copy promoter-probe plasmid vectors for Streptomyces using the aminoglycoside phosphotransferase gene from Tn5 as indicator. Mol Gen Genet. 1986 Jun;203(3):468-78.	<input type="checkbox"/>
37	WEBER JM, WIERMAN CK, HUTCHINSON CR. Genetic analysis of erythromycin production in Streptomyces erythreus. J Bacteriol. 1985 Oct;164(1):425-33.	<input type="checkbox"/>
38	WEBER JM, LEUNG JO, MAINE GT, POTENZ RH, PAULUS TJ, DEWITT JP. Organization of a cluster of erythromycin genes in Saccharopolyspora erythraea. J Bacteriol. 1990 May; 172(5):2372-83.	<input type="checkbox"/>
39	WEBER JM, LEUNG JO, SWANSON SJ, IDLER KB, MCALPINE JB. An erythromycin derivative produced by targeted gene disruption in Saccharopolyspora erythraea. Science. 1991 Apr 5;252(5002):114-7.	<input type="checkbox"/>
40	WU K, CHUNG L, REVILL WP, KATZ L, REEVES CD. The FK520 gene cluster of Streptomyces hygroscopicus var. ascomyceticus (ATCC 14891) contains genes for biosynthesis of unusual polyketide extender units. Gene. 2000 Jun 13;251(1):81-90.	<input type="checkbox"/>
41	XUE Y, WILSON D, SHERMAN DH. Genetic architecture of the polyketide synthases for methymycin and pikromycin series macrolides. Gene. 2000 Mar 7;245(1):203-11.	<input type="checkbox"/>
42	ZHANG W, YANG L, JIANG W, ZHAO G, Yang Y, CHIAO J. Molecular analysis and heterologous expression of the gene encoding methylmalonyl coenzyme A mutase from rifamycin SV-producing strain Amycolatopsis mediterranei U32. Appl Biochem Biotechnol. 1999 Dec;82(3):209-25.	<input type="checkbox"/>
43	WEBER, T.E., SCHINCKEL, A.P., HOUSEKNECHT, K.L., RICHERT, B.T. 2001. Evaluation of conjugated linoleic acid and dietary antibiotics as growth promotants in weanling pigs. J Anim Sci. 79:2542-2549. (Applicant IDS in 0006 file, signed by examiner 3/22/09)	<input type="checkbox"/>
44	METZLAFF. Biological Chemistry. "RNA-Mediated RNA Degradation in Transgene- and Virus-Induced Gene Silencing." 2002 Oct; 383(10): 1483-9. (USPTO ILL Document Delivery 05/20/08)	<input type="checkbox"/>

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45	Bruening. Proc. Natl. Acad. Sci. USA. "Plant gene silencing regularized," 1998 Nov;95: 13349-51. (USPTO ILL Document Delivery 09/23/05)	<input type="checkbox"/>
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